**BLACKBURN CARTER**
**A Professional Corporation - Lawyers**

4709 Austin Street, Houston, Texas 77004
Telephone (713) 524-1012 ♦ Telefax (713) 524-5165

www.blackburncarter.com



JAMES B. BLACKBURN, JR
MARY W. CARTER
CHARLES W. IRVINE
ADAM M. FRIEDMAN
MCNAUGHTON A. DUSON
MARY B. CONNER

VELIA ANDAVERDE
Sender's E-Mail: velia@blackburncarter.com

July 29, 2010

***Via Federal Express***
Richard R. Wilfong
Administrative Law Judge
State Office of Administrative Hearings
300 West 15th Street, Ste. 502
Austin, Texas 78701

RE: SOAH Docket No. 582-09-3064: TCEQ Docket No. 2008-1888-UIC; *Application of Uranium Energy Corp of Permit No. UR03075 and for Aquifer Exemption in Goliad County, Texas*

Dear Judge Wilfong:

Enclosed is *Protestant Goliad County's Reply to Applicant Uranium Energy Corps' Closing Argument*, in connection with the above referenced matter.

Thank you for your time and attention to this matter. Should you have any questions regarding the enclosed filing, please feel free to contact me at (713) 524-1012.

Sincerely,

BLACKBURN CARTER, P.C.

Velia Andaverde, Legal Assistant

c: LaDonna Castañuela, Chief Clerk
Shana L. Horton
Don Redmond
Garrett Arthur, Jr.
Monica Jacobs
Rob Baiamonte
P.T. Calhoun
Judge Harold Gleinser
Art Dohmann

SOAH DOCKET NO. 582-09-3064 and TCEQ DOCKET NO. 2008-1888-UIC
consolidated with
SOAH DOCKET NO. 582-09-6184 and TCEQ DOCKET NO. 2009-1319-UIC

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| APPLICATION OF URANIUM ENERGY CORP. FOR PERMIT NO. UR 03075 AND FOR AQUIFER EXEMPTION AND FOR PRODUCTION AREA AUTHORIZATION UR 03075 PAA1 IN GOLIAD COUNTY, TEXAS | § § § § § | BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS |



**PROTESTANT GOLIAD COUNTY'S REPLY TO APPLICANT URANIUM ENERGY CORP'S CLOSING ARGUMENT**

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CHIEF CLERKS OFFICE
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

James B. Blackburn, Jr.
TBN 02388500
Mary W. Carter
TBN 03926300
Adam M. Friedman
TBN 24059783
BLACKBURN CARTER, P.C.
4709 Austin Street
Houston, Texas 77004
713/524-1012
713/524-5165 (*fax*)

*FOR PROTESTANT GOLIAD COUNTY, TEXAS*

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**PROTESTANT GOLIAD COUNTY'S REPLY TO APPLICANT URANIUM ENERGY CORP'S CLOSING ARGUMENT**

COMES NOW Goliad County and files this reply to Applicant, Uranium Energy Corp's, Closing Argument.

## I. INTRODUCTION

### A. Applicable Law

As the executive director ("ED") points out in its Initial Post-Hearing Brief, Applications for Class III area permits are considered under Texas Administrative Code ("T.A.C.") Title 30, Chapter 331. Applications for Area Authorizations are considered under 30 T.A.C. Chapter 331, Subchapter F. Requests for designation of an exempt aquifer are considered under 30 T.A.C. § 331.13. Chapter 331 of Title 30, Texas Administrative Code, underwent significant revision during the pendency of this proceeding. New and amended rules were adopted effective March 12, 2009. The applications submitted by the Applicant, Uranium Energy Corp. ("UEC"), must comply with the current rules, as amended on March 12, 2009.[1]

The regulations of the T.A.C. and statutory provisions from the Injection Well Act (as adopted pursuant to the Safe Drinking Water Act) establish the legal framework for issuing or denying a Class III injection well permit. UEC began its Closing Argument by laying out the

[1] ED Initial Post-Hearing Brief at 4.

pertinent sections of the Injection Well Act. Section 27.051(a) of Subchapter D of the Injection Well Act provides that the Texas Commission on Environmental Quality ("TCEQ") "may grant an application in whole or in part and may issue the permit if it finds" the following:

1. that the use or installation of the injection well is in the public interest;
2. that no existing rights, including, but not limited to, mineral rights, will be impaired;
3. that, with proper safeguards, both ground and surface fresh water can be adequately protected from pollution;
4. that the applicant has made a satisfactory showing of financial responsibility if required by Section 27.073 of this code [2]

The ED argued in its Initial Post-Hearing Brief that some of the issues designated by the commission for the contested case hearing address concerns that are not included in the statutes or rules.[3] However, the provisions of TEX. WATER CODE § 27.051(a), listed above, coupled with Title 30 Chapter 331 of the Texas Administrative Code, tie essentially all issues designated by the commission to the legal requirements that must be satisfied prior to issuance of a permit. To this end, failure by UEC to demonstrate that the preponderance of the evidence satisfies all of the designated issues is likely grounds for denial of the Class III injection well permit. The designated issues should, at a minimum, be evaluated as part of the public interest determination under 27.051(a).

## B. Scope of Applicable Law

The plain language of TEX. WATER CODE § 27.051 and Title 30, Chapters 305 and 331 of the T.A.C. contemplate a broad range of relevant factors that are to be satisfied prior to issuing a Class III injection well permit. As explained in Goliad County's Closing Argument, Texas case law underscores the intentions for a broad interpretation of prerequisites to obtain a Class III

[2] TEX. WATER CODE § 27.051(a).
[3] ED Initial Brief at 5.

injection well permit.[4] Not surprisingly, UEC expended great effort and dedicated a substantial portion of its Closing Argument towards narrowing the scope of this legal framework hoping to trivialize the requirements to a meaningless checklist. For example, *Texas Citizens for a Safe Future v. R.R. Comm'n* specifically held, "administrative agencies have wide discretion in determining what factors to consider when deciding whether the public interest is served."[5] Despite the obvious intentions by the Austin Court of Appeals to establish a broad public interest review, UEC put forward strained arguments in an attempt to manipulate this decision as a limitation on the public interest review. Contrary to UEC's implication,[6] the reluctance by the Austin Court of Appeals to issue specific criteria for a public interest review is by no means a limitation. In fact, not doing so only reinforces the Court's intention for a broad review.

Similarly, UEC inappropriately cites *Berkeley v. Hartman*,[7] an Amarillo Court of Appeals decision, as a limitation of *Texas Citizens for a Safe Future*. *Berkeley* held, "safety concerns are indicia that should be considered ... when assessing public interest,"[8] which only serves to underscore the broad public interest review established in *Texas Citizens for a Safe Future*. UEC noted that *Berkeley* went on to hold, "the presence of such evidence alone" does not require denial of the permit if there is substantial evidence supporting a public interest finding.[9] However, the holding in *Berkeley* is not limiting the public interest review, but rather sets forth a balancing of positives and negatives inherent in a public interest review - the precise balancing that Goliad County argued was not conducted by the ED when evaluating whether the Class III

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[4] Goliad County's Closing Argument at 5 – 7.
[5] *Texas Citizens for a Safe Future & Clean Water v. R.R. Comm'n*, 254 S.W.3d 492, 499 (Tex. App.-Austin 2007) (citing *Public Util. Comm'n of Texas v. Texas Tel. Assoc.*, 163 S.W.3d 204, 213 (Tex. App. – Austin 2005, no pet.)).
[6] UEC Closing Argument at 15.
[7] *Berkeley v. Hartman*, 282 S.W.3d 240 (Tex. App. – Amarillo 2009, no pet.).
[8] *Id.* at 244.
[9] UEC Closing Argument at 17.

injection well permit that is one of the subjects of this hearing is in the public interest.[10] As argued in Section II.A. of Goliad County's Closing Argument, under the appropriate balancing analysis, the negative safety concerns for citizens of Goliad County far outweigh the general and unsupported declarations of jobs and energy creation cited by UEC.

UEC's further attempts to avoid legal requirements and its burden to prove that it will operate the uranium mine in compliance with all applicable regulations for a Class III injection well are endless. Despite the prior contrary ruling of this Administrative Law Judge ("ALJ"), UEC actually argued that compliance history of an applicant at the Texas Railroad Commission ("TRC") is irrelevant under both the public interest review and under the TCEQ compliance history rules.[11] UEC also argued Chapter 331 does not require an In-Situ Application to establish a regional baseline[12] or guarantee restoration of the groundwater.[13] UEC argued that the TCEQ rules do not require providing the second and third rounds of water quality data as part of its application.[14] Mr. Murry, on behalf of the ED, testified that UEC was in fact obligated to do so[15] and that he could not evaluate the data otherwise.[16] It is extremely disconcerting to Goliad County that an applicant, boasting about going beyond regulatory requirements, spent such an effort to limit its expected obligations and transparency.

Unfortunately, UEC exerted far less effort addressing crucial safety concerns and evidence presented by the protestants at hearing, including, but not limited to: the second and third rounds of water quality data indicating the groundwater was suitable for drinking prior to UEC's arrival; violations of TRC rules; the impropriety of a non geoscientist or engineer

[10] Goliad County Closing Argument at 7.
[11] UEC Closing Argument at 47; *Id.* at 48.
[12] *Id.* at 49.
[13] *Id.* at 89.
[14] *Id.* at 141.
[15] 7 TR. 1313:12 – 16 (Murry).
[16] 7 TR. 1312:3 – 1313:11 (Murry).

delineating the requested aquifer exemption; the far too large aquifer exemption request; the inability to restore groundwater quality post-mining; failure to provide its own witnesses and the TCEQ all pump test data; and the failure to adequately describe the location, extent and hydraulic connectivity of the Northwest Fault (i.e. the implications for the majority of the ore bodies to be mined at this site). It appears that instead of satisfying its burden of proof on the merits, UEC is hoping to rely on a generous adaptation of the regulatory requirements. Such a strategy is directly contrary to the spirit of the Safe Drinking Water Act and the Injection Well Act. These statutes were enacted to protect the nation's drinking water by regulating public water supply systems to ensure they meet minimum national standards to protect public health.[17]

UEC has proposed to put a uranium mine in the middle of Goliad County's aquifer. Groundwater is this county's only source of drinking water. Too much is at stake for Goliad County and its citizens to have all the protective regulations be rendered toothless. Not only is Goliad County's sole source of water supply being jeopardized, but the health and livelihood of Goliad County citizens are being disregarded by an applicant willing to say and do whatever it takes to persuade this ALJ and Commission that its proposed operations are safe. Neither the County nor this Court should blindly trust any operator, especially when an operator has a poor compliance history. Now more than ever, the focus of permitting must be on prevention as opposed to clean-up. Substantial evidence suggests that clean water has already been contaminated by UEC, and that more water will be forever lost if the Commission issues this permit. Goliad County cannot support such a loss of its precious resource; that is why it has maintained its opposition on behalf of its citizens.

The foregoing circumstances, combined with the evidence in the administrative record, clearly demonstrates that issuing the Class III injection well permit is not in the public interest as

[17] 42 U.S.C. §§ 300f *et seq.*

required by TEX. WATER CODE §27.051(a)(1). Goliad County also established that neither UEC nor the In-Situ Application have proven groundwater can be adequately protected from pollution, which is required prior to issuance of a permit pursuant to TEX. WATER CODE §27.051(a)(3). Failure to comply with either of the foregoing provisions is an independent ground for denial of the Class III injection well permit. The combined failure of both requirements underscores the inadequacy of the In-Situ Application. The evidence against UEC for failing to meet these two statutory provisions is strong and relates directly to many of the issues designated by the Commission. Additional record evidence demonstrates that UEC also failed to assure existing rights of others will not be impaired, and failed to make a satisfactory showing of financial responsibility. Pursuant to TEX. WATER CODE §27.051(a)(2) and (4), both of these failures are additional grounds for denial of the In-Situ Application.

Based on the evidence before this Court, and to protect the water and health of the citizens, Goliad County respectfully requests this Court recommend that the Commission deny the In-Situ Application and the aquifer exemption request. As it is impossible to receive a PA authorization without an in-situ permit, Goliad County recommends no action on the PA-1 request. In the alternative, if the recommendation is made to issue the In-Situ permit and Aquifer Exemption, then Goliad County respectfully requests denial of the PA-1 Application.

Goliad County confidently relies on its Closing Argument, which sets forth the basis for denying the application and aquifer exemption request, and incorporates it here by reference. In the following sections, Goliad County will further address UEC's arguments in its Closing Argument regarding the In-Situ Application, Issues A through U. UEC arguments regarding the PA-1 will be addressed in Section III.

## II. APPLICATION FOR PROPOSED CLASS III INJECTION WELL PERMIT NO. UR03075 AND AQUIFER EXEMPTION

### A. Whether the use and installation of the injection wells are in the public interest under Texas Water Code § 27.051(a). Pubic interest in regard to this issue includes whether UEC's mining operation or restoration will adversely impact the public interest by unreasonably reducing the amount of groundwater available for permitting by the Goliad County Groundwater Conservation District.

As discussed above, determining whether a Class III injection well is in the public interest requires a balancing of the positives versus the negatives. Mr. Murry, the sole witness put forward by the TCEQ, openly acknowledged that he only considered the potential positive aspects as provided by the Applicant.[18] UEC argues that job creation and uranium ore production outweigh any negative impacts on the water resources or public health. And notably, UEC only offered general statements in the "Introduction" of the In-Situ Application without providing any specifics of the actual proposed benefits. For example, UEC promises "high-paying, long term jobs and contributions to the tax base in the largely rural communities which it operates."[19] However, nowhere does UEC explain what "high paying" really means or how much tax revenues will be increased in rural communities. UEC suggests that the project will employ 80 workers,[20] but failed to offer any testimony as to whether these would be newly created or whether some, if not all, projected jobs already exist and are current UEC employees.

UEC also argues that the uranium mining industry is important for meeting national energy demands and moving the United States towards independence. UEC did not present any supporting evidence at hearing. Rather, UEC's only support that *the Goliad Project Site* will help serve American independence is one sentence from the USGS study authored by Susan Hall ("Hall Report") offered into evidence by Dr. Darling on behalf of Goliad County. Ironically, the

[18] 6 TR. 1234:7 – 10 (Murry).
[19] UEC brief at 42.
[20] *Id.* at 43.

primary focus of this report is the inability of past in-situ recovery mines to restore groundwater quality to baseline once mining has occurred. The Hall Report ultimately concludes that no In-Situ Recovery ("ISR") mine has ever restored all listed constituents back to baseline. UEC highlights that "the safe and effective use of ISR technology in mining uranium deposits is a potentially critical element in the movement towards energy independence."[21] Goliad County does not disagree that *if* ISR technology could be done *safely* and *effectively*, it may in fact *potentially* play a role in the energy interdependence of the United States. Unfortunately, as proven by Susan Hall's and Dr. Darling's reports, it has yet to be proven as a safe and effective technology. Consequently, whether the technology may play a role in the country's energy independence is inapposite. UEC's reliance on these reports is misleading.

Moreover, UEC offered no specification as to the number of pounds of uranium to be produced at the Goliad site or how much this project will actually contribute towards supplying the energy demands of the United States. Perhaps this is in part because UEC does not actually know how much uranium can be feasibly extracted from the proposed production areas. As Mr. Underdown testified, UEC has not even determined how, or if, they will mine the production areas in the A, C and D sands that straddle the Northwest Fault System.[22] That UEC is willing to risk Goliad County's clean groundwater supply for an unknown quantity of uranium is very troubling.

UEC relies merely on general propositions that mining is in the public interest without substantiating these propositions. On the other hand, Sections II.A, II.C., II.G., II.L., II.S. and II.T. of Goliad County's Closing Argument thoroughly explain the negative impacts to Goliad County's groundwater and its citizens associated with the proposed mining operation.

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[21] *Id.* at 42.
[22] 1 TR. 202:15 – 18 (Underdown).

Underscoring the importance of these negative impacts is the brewing catastrophe of water scarcity and has indicated its desire to prevent it. Fortunately, the TCEQ has acknowledged the issue and has indicated a desire to prevent it. As TCEQ Chairman Shaw put it, "the [TCEQ] recognizes that the state's population is expected to double in the next 30 years, so the agency must put even more focus on water issues, to ensure that there will be adequate water quality and quantity for future demand."[23] Goliad County shares the concerns expressed by Chairman Shaw. UEC has not presented persuasive evidence that the combined benefits, if any, come close to outweighing the need and demand for clean water in Goliad County and across the state.

UEC has requested a permit that will cause groundwater to suffer irreversible contamination once mining commences. UEC may have already contaminated the groundwater due to UEC's exploration and well development activity. It is hard to imagine the number of jobs or amount of pounds of uranium that would outweigh the sustainability of Goliad County's water supply and the health of its citizens. Finally, permitting an operator that has a documented laundry list of repetitious statutory and regulatory violations to conduct such risky mining activity cannot be in the public interest.

## B. Does the Applicant's compliance history require denial of the application under Tex. Water Code § 27.051(e) and 30 TAC Chapter 60?

UEC did not dispute the factual basis of Dr. Darling's testimony regarding the extensive list of UEC's statutory and regulatory violations. Instead, UEC incorrectly argued that the Notice of Violation ("NOV") issued by the TRC is not a component of an applicant's compliance history in permitting proceedings before the Commission.[24] This issue was extensively briefed in pretrial proceedings, and this Court held that "the applicant's compliance

[23] http://www.tceq.state.tx.us/comm_exec/forms_pubs/pubs/pd/020/10-03/the-tceq-creates-office-of-water, last modified June 29, 2010.
[24] UEC Closing Argument at 48.

history with respect to the exploratory drilling that was conducted pursuant to the Railroad Commission authorization for that activity *will be considered in this proceeding.*"[25] Although it appears that all parties agree two separate compliance history evaluations are conducted – one pursuant to TEX. WATER CODE § 27.051(d)(1) to determine whether the injection well is in the public interest, and a second to determine whether the applicant has an acceptable history pursuant to § 30 T.A.C. 60.3(a)(3)(E) – it appears all parties do not agree on the implementation of the Court's ruling.

UEC disregards the Court's ruling, arguing that the NOV issued by the TRC is irrelevant to both compliance history reviews.[26] By contrast, the ED at least acknowledges that "in its requirement that the Commission consider whether the use and installation of the wells is in the public interest, the Water Code does not limit the commission from considering only compliance history components laid out in Commission rule."[27] As explained in Goliad County's Response to UEC's Brief Regarding Compliance History, the TRC violations are, in fact, a component of both compliance history reviews. By Goliad County's reading, this Court did not rule that the negative TRC compliance history would be considered only for the public interest determination (and not for Title 30, Chapter 60 review). At a minimum, UEC's TRC compliance history is to be considered pursuant to the public interest determination, and Goliad County's evidence is not addressed in UEC's Closing Argument.

UEC implies that even if the NOV is to be considered under the Title 30, Chapter 60 review, it would not likely have an effect on UEC's compliance history classification.[28] UEC selectively and misleadingly cites portions of Mr. Murry's testimony at hearing to support this

[25] Prehearing Conference TR. 8:22 – 9:1 (Judge Wilfong) (emphasis added).
[26] UEC Closing Argument at 48.
[27] ED Initial Post-Hearing Brief at 8.
[28] UEC Closing Argument at 48.

position. However, a close look at the full testimony of Mr. Murry on this issue paints a much different picture. Mr. Murry's testimony is as follows:

> Q: [By Mr. Arthur] What is the ED's current position regarding UEC's compliance history?
>
> A: [By Mr. Murry] I'll answer that. I hesitate because I see this as a legal question, but our position is we're still relying on the compliance history that was done for this application. I certainly understand the Judge's determination on this and, again, I'm probably going outside of my expertise in legal matters, which really don't have any, that – *so when this is – when this application and the proposal for decision and all the other information is submitted to the TCEQ Commissioners, they should consider ... UEC's compliance history with regards to the Texas Railroad Commission alleged violations.*
>
> Q: So, hypothetically, if the ED's consideration of compliance history included the Railroad Commission violations, do you think that the ED would still be taking the position that UEC's compliance history is acceptable?
>
> A: My opinion -- and this is – *I don't do compliance history, so I didn't do this one. I've never done one.* I would – What I know of those – of that notice of violation is that it was resolved to the satisfaction of the Railroad Commission, and it is also my understanding there were no penalties and no fines. And based on what I know about TCEQ compliance history is that the outcome of that notice of violation would not affect the compliance history.[29]

Mr. Murry's full testimony reveals three important points. First, Mr. Murry unequivocally testified that the ruling by this Court was for the TCEQ Commissioners to consider UEC's compliance history with regards to the Texas Railroad Commission alleged violations. Second, Mr. Murry acknowledges he has absolutely no experience conducting a compliance history analysis. Given Mr. Murry's lack of experience, UEC's reliance solely on his opinion testimony that the NOV is inconsequential is unacceptable. Finally, Mr. Murry's testimony only considered the potential effect of the NOV issued by the TRC. The TCEQ Commissioners must also consider the 139 improperly plugged boreholes, the elevated radioactivity on the surface, and the 18 of 20 improperly cased Regional Baseline wells ("RBLs"). UEC appears to argue

[29] 7 TR. 1404:8 – 1405:10 (Murry) (emphasis added).

that because no official violation was issued by the TRC, the other violations are of no importance.[30] However, the TRC's failure to issue a formal notice does not negate that UEC violated statutes and regulations. *UEC did not dispute these violations at hearing or in its Closing Argument.* UEC is employing its all too typical strategy of ignoring the facts and focusing on a manufactured excuse to avoid the issue entirely.

To date, neither the ED nor the Applicant has addressed the potential effect from the long list of TRC violations on UEC's compliance history classification. In fact, as Goliad County argued in its Closing Argument, because the ED did not make any effort to incorporate the TRC materials in his compliance history evaluation, the ED has not satisfied 30 T.A.C. 60.2(a), which states, "the Executive Director shall evaluate the compliance history of each site and classify each site and person."[31] As such, the ED has effectively taken no position on whether UEC's compliance history is acceptable.

Plainly, the only evidence in the record indicates that UEC consistently violated TRC rules during exploration mining. For months after the NOV was issued, UEC continued, although less frequently, to improperly plug boreholes in violation of environmental statutes. UEC's compliance history portrays a recurring pattern of violations and misconduct that demonstrate a consistent disregard for the regulatory process. This is unacceptable and constitutes grounds for denial of this permit.[32] As discussed in Section II.A., *supra,* UEC's poor compliance history is also grounds for denial of this permit as part of the public interest review.

[30] UEC Closing Argument at 48.
[31] Goliad County Closing Argument at 21.
[32] 30 T.A.C. § 60.3(a)(3)(E).

## C. Does the application adequately and accurately describe baseline conditions of the groundwater in the proposed permitted area under applicable requirements of 30 TAC Chapter 331?

### 1. Location of RBLs

As described in the Introduction to this Reply, UEC implicitly argued it was not obligated under Chapter 331 to establish a regional baseline. Instead, UEC suggests that the purpose is only to get a general idea of the water quality in the area UEC is planning to mine.[33] Goliad County disagrees and reiterates that the definition of "baseline well" clearly contemplates establishment of the baseline quality in the permit area.[34] UEC appears to have attempted to establish such a regional baseline in its In-Situ Application. As the ED noted in its Initial Post-Hearing Brief, "the Class III application does include regional baseline information from areas within the permit area."[35] Moreover, an accurate description of the baseline water quality is essential for determining whether the aquifer should be exempted and for determining whether it is in the public interest to permit such risky activity in good quality water that is generally suitable for drinking.

Interestingly, UEC appears to concede that the water quality in the "white areas" (or areas that are within the proposed permit boundary but not within any of the four potential production areas) is represented by the water quality data of the 47 Area of Review ("AOR").[36] UEC's concession is a clear admission that the twenty Regional Baseline Wells are not representative of water quality throughout the entire permit area. More importantly, UEC's admission indicates that the "white areas" within the permit boundary contain water suitable for

[33] UEC Closing Argument at 49.
[34] 30 T.A.C. § 331.12(13).
[35] ED Initial Post Hearing Brief at 9.
[36] UEC Closing Argument at 53.

human consumption. With the exception of a few, all AOR wells contain water that meets all drinking water standards established by the EPA. However, UEC still maintains "the average Ra-226 concentration in the *permit area* is approximately 116 times higher than the drinking water standard, and the average uranium level is 13.4 times higher than the standard."[37] UEC based this conclusion solely on the water quality data from the twenty RBL wells and made no reference to the AOR wells. In other words, UEC's "region" is a small selected area within the proposed permit boundary and not a true "region" at all. By omitting the AOR data, UEC was able to represent much poorer water quality than true regional levels.

UEC implies that it has not misled the Commission as to the actual baseline water quality because it included water quality data from the 47 AOR wells in the In-Situ Application as part of its description of the "Local Water Quality."[38] However, UEC dedicated an entirely different section to describe "Permit Area Water Quality", which did not include the AOR water quality data.[39] UEC appears to be using the terms local water quality and permit area baseline interchangeably. UEC did not do so in its application to the Commission. UEC has openly acknowledged that the permit area baseline presented in the In-Situ Application is not representative of the water quality throughout the entire permit area.

### 2. UEC oxidized Uranium

It is undisputed that when oxygen is introduced to the subsurface and interacts with an uranium ore body, the uranium will solubilize into the groundwater. It is also undisputed that when this process occurs, trapped radium will also enter the groundwater. Goliad County presented clear evidence describing multiple pathways created by UEC for oxygen to be

[37] UEC Exhibit 6, Holmes Pre-filed Testimony, Exhibit 13 at 5 - 16 (In-Situ Application).
[38] UEC Closing Argument at 53.
[39] UEC Exhibit 6, Holmes Pre-filed Testimony, Exhibit 13 at Section 5.3 (In-Situ Application).

introduced to the subsurface at the proposed project site, solubilizing uranium into the groundwater. The pathways are as follows: (1) UEC jetted the wells with an air line during development; (2) UEC failed to case 18 of the 20 RBL wells within the 48-hour requirement; (3) UEC failed to properly plug 139 exploration boreholes within the 48-hour regulatory requirement; and (4) UEC conducted at least two pump tests between sampling PTWs 1 – 6 and PTWs 7 – 13. Goliad County's Closing Argument thoroughly explained the effect of these pathways on the water quality data included in UEC's In-Situ and PA-1 Applications. The water quality data uniformly shows a decreasing trend of uranium concentration over a two-year time period. This data is overwhelming and compelling evidence that these pathways introduced oxygen into the subsurface and artificially raised the baseline water quality established in both applications.

UEC mocked the water quality data as "circumstantial", implying circumstantial evidence is categorically unpersuasive.[40] However, circumstantial evidence is a well accepted form of proof commonly used in legal proceedings. Circumstantial evidence is critical, especially when the subject matter is scientifically complex and occurring underground. The three rounds of water quality data strongly suggest that an oxidizing event took place without having been on site during exploration and well development and without the ability to physically see it. Despite UEC's contempt for Goliad County's use of circumstantial evidence, UEC relies solely on circumstantial evidence, if not pure speculation, that is far more indirect than the oxidation-reduction process, water quality data, plugging affidavits and drilling records relied upon by Goliad County.

[40] UEC Closing Argument at 53.

UEC argued "it would be impossible for *enough* oxygen to have contacted the aquifer."[41] However, UEC has no way to prove no oxygen was introduced or that the oxygen that was introduced was not enough to solubilize uranium. UEC is simply relying on the speculation of Dr. Bennett and Dr. Erskine. Tellingly, nowhere did Dr. Bennett or Dr. Erskine testify in pre-filed testimony or at hearing that absolutely no oxygen was introduced into the formation. Suggesting that no oxygen was introduced into the subsurface is as illogical and disingenuous as it is to suggest that the uniform decrease in uranium concentration within a two-year time period is due to natural variability in groundwater samples.

Dr. Bennett's testimony actually suggests that sufficient amounts of oxygen could have been introduced by UEC to artificially raise uranium concentration in the first round of sampling. For example, neither UEC nor Dr. Bennett disputed that it rained during the time period the exploration boreholes were unplugged, but rather only that "any contribution of oxygen from storm water runoff would be insignificant."[42] Although UEC argues this precludes the possibility for solubilizing uranium, this statement is actually an admission that at least some rainwater, and, therefore, oxygen, was introduced to the subsurface by means of improperly plugged boreholes and uncased baseline wells. That is, UEC's expert did not argue that the concept was wrong, he just raised an issue with the amount of oxygen introduced – which UEC did not substantiate with a measurement. While UEC faulted Dr. Sass for not calculating the amount of oxygen introduced by rainwater runoff, Dr. Bennett, before offering his opinion that it would be insignificant, did not make a single calculation to determine whether the oxygenated rainwater was insufficient to oxidize any uranium. Unlike Dr. Sass, Dr. Bennett had no data or tangible evidence supporting his testimony. Dr. Sass, in forming his opinion, relied on the

[41] *Id.* at 57.
[42] UEC Exhibit 11, Bennett Pre-filed Rebuttal, Issue C at 23:7 – 8.

undisputed scientific process of oxidation-reduction chemistry, the undisputed role of rainwater as an oxidizing agent, and overwhelming sampling data.

Additional Dr. Bennett testimony indirectly admits that the oxygen introduced into the subsurface is sufficient to solubilize uranium. Dr. Bennett testified that "oxygen [from drilling boreholes and RBL wells] could not be transported more than a foot from the wellbore."[43] UEC argues this debunks Protestants' theory that UEC oxidized the ore body. However, UEC's reasoning is flawed for two reasons. First, Dr. Bennett failed to provide any detailed reasoning for his one-foot *estimation*. Again, Dr. Bennett does not point to any tangible evidence to support that all oxygen would be consumed upon entering the subsurface, creating a maximum migration of one foot. Second, even assuming Dr. Bennett's estimation of one foot is accurate, sufficient quantities of oxygen to oxidize uranium ore could have been introduced whether from rainwater runoff, drilling the borehole, drilling the well or jetting the well. Each well has 20 foot screen, creating approximately 63 cubic feet[44] of ore bearing sands exposed to the introduction of oxygen. Considering that each RBL (and PTW) was drilled directly into the projected heaviest concentrations of uranium, it is unreasonable to conclude that the oxygen would have completely avoided such a heavily concentrated area of uranium. Accordingly, the first round of sampling reflects the artificially raised levels of uranium caused by UEC's introduction of oxygen into the subsurface. Conversely, the third round of water quality samples are far more representative of actual groundwater conditions at the proposed mining site.

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[43] *Id.* at 53.

[44] Area of the circumscribed circle of radius equal to 1 foot multiplied by the screen height of 20 feet equals the volume of the potentially impacted volume of the aquifer.

### 3. Uranium concentration declines between first and third rounds of sampling

Dr. Bennett testified that prior to his submitting rebuttal testimony he "had received [the third round of sampling data] *but [had not] had a chance to look at it.*"[45] The lab reports indicate UEC was in possession of the third round of sampling as early as January 2010,[46] more than two months prior to UEC's rebuttal testimony being submitted. Lab reports indicate that the second round of sampling results were in UEC's possession as early as October 2009. Dr. Bennett made very clear, "[i]t doesn't matter whether it's coming from a student or an elder statesman, I look at every document, I doubt every document, I hold everything as -- as a piece of data to be examined and cross checked, just as a pilot cross checks his instruments. And if at any point I see something that doesn't make sense to me, then I flag that."[47] It is simply astounding that the meticulous Dr. Bennett, who carefully scrutinized every word of Goliad County's Counsel's questions on cross-examination, would fail to review and incorporate into his direct or rebuttal testimony readily available water quality data pivotal to his opinions.

UEC's only counter to this data has been to argue the natural variability of sampling groundwater.[48] As explained in Goliad County's Closing Argument, this explanation is unrealistic and not supported by science. Goliad County further addresses this point of contention in Section III.C.3, *infra*.

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[45] 4 TR. 838:1 – 8 (Bennett).
[46] Goliad County Exhibit 3, Sass Pre-filed Testimony at Exhibit 13 (Lab Reports).
[47] 4 TR. 817:1 – 7 (Bennett).
[48] 1 TR. 141:6 – 9 (Erskine); UEC Closing Argument at 137.

## 4. UEC liberated trapped radium into the groundwater

As Goliad County argued in its Closing Argument, Dr. Erskine readily agreed with Dr. Sass that once uranium is oxidized, trapped radium will be liberated.[49] UEC maintains alpha recoil is more responsible for the elevated levels of radium reflected in the water quality data. UEC argues that Goliad County overlooked alpha recoil as a larger source for radium in the groundwater because of the perception that uranium resembled a concrete block. Regardless of whether the crystal resembles a concrete block, it is still only the outer layer of the uranium crystal that is susceptible to recoil. Dr. Sass appropriately acknowledged this process in his deposition as the "edge effects",[50] which he concluded would only be responsible for small amounts of radium in the groundwater.

No evidence has been presented to establish the exact thickness of the uranium crystal at the Goliad Project. However, the RBL wells and PTWs were targeted for the heaviest uranium concentrations, suggesting thicker uranium oxide crystals that would be less subject to alpha recoil. On the other hand, Dr. Sass opined that for every 1 mg/L of solubilized uranium, 335 pCi/L of trapped radium would be liberated.[51] It is far more reasonable that the extremely high levels of radium and the significant spike between sampling events are a consequence of liberation as opposed to recoil. It is certainly worth reiterating that UEC has agreed that if uranium was solubilized, which overwhelming evidence indicates has occrred, we know the radium levels detected in the first sampling rounds are not representative of true water quality conditions. As uranium atoms precipitated as they encountered reducing agents, lowering the

[49] 1 TR. 144:4 – 9 (Erskine); Goliad County Closing Argument at 34 – 35.
[50] UEC Exhibit 3, Erskine Pre-filed Rebuttal, Issue C at 12:6 – 12.
[51] Goliad County Exhibit 3, Dr. Sass Pre-filed Testimony at 11:11 – 12.

uranium concentrations to natural conditions, radium concentrations remain high as they do not share the same chemical principles.

## D. Does the application meet all applicable criteria of 30 TAC § 331.122, related to required consideration by the Commission prior to issuing a Class III Injection Well Area Permit?

The In-Situ Application does not include a map of the proposed injection wells and does not include a map of the proposed production areas – both of which are required by 30 T.A.C. § 331.122(2)(A). UEC has only indicated "potential" production areas and is unsure as to the feasibility of extracting uranium near the Northwest Fault System. UEC appears to argue that since "Mr. Murry was fully capable of considering the approximate locations of the proposed injection wells with the information provided in the Mine Application" it is excused from complying with these rule requirements.[52] Goliad County disagrees that UEC is excused from complying with the rules. UEC simply did not comply with 30 T.A.C. § 331.122(2)(A).

UEC does not address in its Closing Argument its failure to include a map that depicts faults "known or suspected" in its In-Situ Application. UEC does argue that all exploration boreholes drilled by UEC were eventually plugged with cement, and, therefore, in no way could be classified as a "well" as contemplated by 331.122(2)(B). However, as indicated in Goliad County's Closing Argument, the exploration boreholes drilled by Moore Energy were never confirmed by Dr. Bennett to be plugged. UEC has not provided any evidence these exploration boreholes have been plugged. Mr. Blandford entered into evidence an exhibit identifying 61 Moore Energy boreholes that could be conduits for migration between sand units. Pursuant to 30 T.A.C. § 331.122(2)(B), these boreholes, and those within the mine permit area, are required to

[52] UEC Closing Argument at 65.

be included in the application and considered by the commission. Accordingly, UEC did not comply with 30 T.A.C. § 331.122(2)(B).

## E. Has the Applicant demonstrated that the proposed exempted aquifer meets the applicable criteria of 30 TAC § 331.13?

Goliad County maintains its position that the water within the proposed aquifer exemption currently serves as a source of drinking water. In this Reply, Goliad County responds to attacks on Dr. Clark's qualifications and further argues that the requested aquifer exemption does not satisfy the requirements established in 30 T.A.C. § 331.13.

UEC begins its argument by attacking Dr. Clark as unqualified to testify on whether the proposed aquifer exemption satisfies the necessary regulatory requirements established in 30 T.A.C. § 331.13. UEC premises this argument based on the fact this is Dr. Clark's first time to review an aquifer exemption request. This argument is absurd. Dr. Clark's analysis about an aquifer exemption was based on his knowledge of all the elements involved in the exemption as well as his long experience with environmental issues such as those that are a part of the history of the Safe Drinking Water Act. By UEC's definition of qualified, UEC has disqualified Dr. Galloway[53] and Dr. Murry[54] as witnesses to opine on the adequacy of the exemption request. Both Dr. Galloway and Dr. Murry, like Dr. Clark, are professional geoscientists. Adding to the absurdity is UEC's contention that Mr. Holmes, who is not a professional geoscientist or professional engineer, and, by rule, unqualified to delineate an exemption, is somehow more qualified than those with technical expertise. The hypocrisy of UEC's suggestion that Mr. Holmes has superior knowledge on aquifer exemptions is revealed in Mr. Holmes's

[53] 1 TR. 23:13 – 15 (Galloway).
[54] 7 TR. 1360:15 – 16 (Murry).

testimony on cross-examination that revealed he does not even understand what is required by the aquifer exemption regulations. Mr. Holmes testified as follows:

Q: [By Mr. Blackburn] There's a lot of area in your proposed aquifer exemption area that is just open area. Right?

A: [By Mr. Holmes] Absolutely.

Q: It's white, it's not color coded for commercial production. Correct?

A: Right. And it doesn't have to be.[55]

* * *

Q: Well, I understand that. I was trying to figure out if there's any other reason for including these white areas.

A: Oh, yeah. Okay. Yeah, put that way, I can explain why we have white area in there.

Q: *I'm asking from the basis of is there a water quality basis for doing that?*

A: *No.* Because aquifer exemptions aren't necessarily determined on a water quality basis.

Q: *It seems to me it's either got to have commercially available amounts of ore or water that's so contaminated that you can't use it.*

A: *No. If you look above, as long as it's not serving as a current source of drinking water for human consumption.*

Q: Well, as a regulatory expert, you understand that the word "and" links the two requirements [of 30 T.A.C. § 331.13] ...

A: Uh-huh

Q: You understand the use of the word "and" as a regulatory expert?

A: I think I do.[56]

Mr. Holmes testimony establishes two points. First, Mr. Holmes does not appear to understand that an applicant must show the proposed exemption must not currently serve as a

[55] 2 TR. 306:22 – 307:3 (Holmes).
[56] 2 TR. 307:24 – 308:21 (Holmes) (emphasis added).

source of drinking water for human consumption *and* will not in the future serve as a source of drinking water. Mr. Holmes believes an exemption may be granted "as long as it's not serving as a current source of drinking water for human consumption."[57] Second, Mr. Holmes candidly admitted that there is no water quality basis to exempt the white area within the proposed exemption. This testimony, coupled with UEC maps that illustrate the proposed production areas are only one-third of the requested exemption, demonstrates that the requested exemption is far too broad and does not meet the requirements established in 30 T.A.C. § 331.13.

UEC argues that it is not obligated to show every one-foot cube has minerals with production capabilities.[58] Of course, UEC does not cite any statutory or regulatory support for this position and has itself completely rewritten the plain language of the regulations. Moreover, as noted in Goliad County's Closing Argument, the ED offered ample testimony contrary to UEC's version of 30 T.A.C. § 331.13(c)(2)(A). On cross-examination of Mr. Murry, Goliad County offered into evidence the powerpoint presentation previously given by Mr. Murry that indicates UEC's requested exemption is improper.[59] Mr. Murry testified that in "conversations [he's] had with the EPA, they feel that Aquifer Exemption boundaries should be made smaller.[60] . . . [R]ather than having a very large area for the Aquifer Exemption, we should try to, if you will, minimize them."[61]

## F. Is the application sufficiently protective of groundwater quality?

As discussed in Sections II.R., II.S. and II.T. of Goliad County's Closing Argument, UEC's application is not sufficiently protective of groundwater quality. UEC focuses solely on

[57] 2 TR. 308:8 – 13 (Holmes).
[58] UEC Closing Argument at 74.
[59] Goliad County Cross-Examination Exhibit 21.
[60] 7 TR. 1284:13 – 14 (Murry).
[61] 7 TR. 1284:17 – 19 (Murry).

contamination during mining operations while completely ignoring post mining implications to water quality. UEC relies heavily on its incorrect assumption that water quality will be restored to baseline conditions. Section II.L. of Goliad County's Closing Argument thoroughly explained that UEC is mistaken and the groundwater will be forever contaminated and undrinkable.

## G. Does the application adequately characterize and describe the geology and hydrology in the proposed permit area, including fault lines, under the applicable rules?

UEC has incessantly insisted that Dr. Clark "skillfully shuffled" geologic scale in his direct testimony. Specifically, UEC attacks the use by Dr. Clark of certain exhibits (produced by UEC) to suggest that the Northwest Fault is not a single fault. Goliad County finds irony in such an argument considering that Mr. Holmes essentially agreed with Dr. Clark's opinion, testifying that the fault is indeed a "fault system".[62] Moreover, Dr. Galloway acknowledged that Exhibit 16 of Dr. Clark's Pre-filed Testimony does show a potential offset of the Northwest Fault that is not mentioned in the In-Situ Application.[63]

UEC then argued that its "interpretation of the faults within the Mine Permit Area has been exhaustively reviewed and is supported by multiple lines of evidence."[64] UEC drew this conclusion based on testimony from Dr. Galloway and Dr. Bennett, neither of which participated in the preparation or drafting of the permit applications. Although Dr. Galloway went to great length to counter Dr. Clark's testimony of multiple fault offsets, he ultimately did not conclude that additional offsets do not exist.[65] Furthermore, the testimony of Dr. Bennett regarding the description of the Northwest Fault System cited by UEC was called into serious question at hearing. As explained in detail in Section II.G. of Goliad County's Closing Argument, Dr.

[62] 2 TR. 422:11 – 20 (Holmes).
[63] 1 TR. 82:23 – 83:19 (Galloway).
[64] UEC Closing Argument at 77.
[65] UEC Exhibit 2, Galloway Pre-filed Rebuttal, Issue G at 16:12 – 13.

Bennett's testimony that the Northwest Fault System was a barrier to water flow was derived without having ever seen the 24-hour pump test conducted to test transmissivity across the fault. It is inappropriate for UEC to rely on Dr. Bennett's prior opinion and serves as proof that UEC has inaccurately and inadequately described the geology and hydrology within the mine permit boundary. UEC simply has not provided adequate evidence to show that the information included in the In-Situ Application allows the Commission to consider the necessary geologic information as required by 30 T.A.C. §§ 331 122(2)(D) and (E). As a result of the unknown characteristics of the faulting, UEC has not demonstrated that UEC can mine and protect groundwater from pollution as required by TEX. WATER CODE 27.051(a)(3).

## H. Do the geologic and hydraulic properties of the proposed permit area indicate that the Applicant will be able to comply with rule requirements?

Goliad County argued in its Closing Argument that the geologic and hydraulic properties of the Northwest Fault calls into question whether the Applicant will be able to comply with all rule requirements. UEC addressed Issue H under Issue R in its Closing Argument.

## I. Does the Applicant meet the applicable requirements for financial assurance under Texas Water Code §§ 27.051, 27.073, and 30 TAC Chapter 37 and 331?

Under the recent rule revisions to Chapter 331, 30 T.A.C. § 331.143(a)(2) requires an applicant to "prepare a written estimate, in current dollars, of the cost of ... aquifer restoration for each production area authorization." UEC has not provided a written estimate for each production area authorization. The ED made clear that the applications must comply with the current rules, as amended on March 12, 2009.[66] UEC's applications do not comply with the requirement or TEX. WATER CODE § 27.051(a)(4).

[66] ED Initial Post-Hearing Brief at 4.

Goliad County maintains its position articulated in its Closing Argument that UEC's calculation for financial assurance is inaccurate due to the inaccurate restoration levels.[67]

**J. Is the application sufficiently protective of surface water quality?**

UEC argues that Fifteen Mile Creek is not in jeopardy because (a) any mining in sand A will be restored to pre-mining condition and (b) migration of uranium and radium will be retarded due to reducing conditions and absorption to clays.[68] However, neither concept creates the necessary level of confidence needed to assure contamination will not occur. Once again, UEC relies on the notion that it will restore groundwater back to baseline conditions. Section II.L. of Goliad County's Closing Argument discredits this notion. The history of uranium mining shows, once mining ceases, concentrations of constituents are elevated and remain in the ground unmonitored. Although the retardation effect may have some impact on the speed and quantities of uranium and radium that will migrate, it by no means ensures none will reach the creek (or adjacent water wells).

**K. Are local roadways sufficient to handle traffic to and from the proposed facility?**

Goliad County chooses not to brief this issue.

**L. Whether UEC's proposal for restoration of groundwater to baseline levels as contained in the permit application is reasonable and adequate?**

UEC argues that Protestants have overlooked the legitimacy of the restoration amendment process and are wrong to suggest UEC's restoration will be a failure based on past restoration efforts in Texas.[69] UEC ultimately concluded that the restoration amendments are

[67] Goliad County Closing Argument at 62.
[68] UEC Closing Argument at 88.
[69] UEC Closing Argument at 92.

processed by balancing a number of considerations.[70] Although a process for evaluating various criteria when considering an amendment may exist, TCEQ documents establish that the Commission has *never* denied an amendment. The same documents tell us that not a single PAA in Texas has ever been restored to baseline for all listed constituents. Underscoring the failure rate to restore groundwater in Texas, UEC's own witnesses, Mr. Holmes and Mr. Underdown, testified in their experience with uranium mining, neither had successfully restored a PAA to baseline levels. Instead of addressing the practical implementation of the regulatory framework and the extreme unlikelihood of restoring groundwater back to baseline conditions, UEC attempts excuse its inevitable failure to restore the groundwater by hiding behind the mere existence of regulations that UEC knows full well will allow them to leave the groundwater in a far worse condition than pre-mining conditions.

UEC further argues that Goliad County's account of past restoration as a uniform failure is misleading. Oddly, in a strained effort to present a positive track record of groundwater restoration, UEC points to the Hall Report. The best support UEC could come up with for past successful restoration of uranium is that 32% of the 22 PAAs evaluated in the Hall Report restored uranium values below original baseline.[71] It is hard to believe that UEC would rely on such a pathetic percentage for successful restoration to assure Goliad County and convince this Court that UEC has satisfied its burden to prove that its proposal for restoration of groundwater.

Moreover, 32% is as misleading as it is unpersuasive. The Hall Report looked at only 22 PAAs because these were the only ones that had recorded final water quality samples. However, Dr. Darling's report identified at least 51 amendments have been previously issued by the TCEQ. Final samples for these PAAs that obtained amendments are not documented, so we cannot be

[70] *Id.*
[71] UEC Closing Argument at 94.

sure as to the exact percentage of PAAs that do not obtain original baseline. However, we do know that if an amendment was sought by an operator and issued by the Commission, baseline conditions had not been met at that time. It is far more reasonable to conclude that PAAs that received amendments did not subsequently restore water quality back to baseline conditions despite no longer being obligated to do so under the applicable regulations. Moreover, the dismal 32% of the 22 PAAs that were successful in restoring groundwater to baseline only reflects restoration to baseline for uranium concentration. As stated earlier, not one of the 22 PAAs in the Hall Study, or any past PAA in Texas, was successful in restoring groundwater to baseline conditions for all constituents. UEC's admission that "not all companies have had equal success with restoration"[72] is a vast understatement and overlooks the overarching premise of the Hall Study. There is nothing "simplistic" or "misleading" about the Protestants' representation that past restoration efforts have been a complete failure – this position is supported by all available data and evidence in the record.

## M. Will the Applicant's proposed activities negatively impact livestock and wildlife, including endangered species?

As UEC points out in its Closing Argument, "Dr. Reagor's conclusions are largely based on the fact that contaminants will never reach the potential exposure pathways due to the protective measures set out in UEC's pending RML Application."[73] As Goliad County argued in its Closing Argument, Dr. Reagor's conclusions are, therefore, without persuasive value. Mr. Holmes and Mr. Underdown assured Dr. Reagor that groundwater within the production areas would be restored to pre-mining conditions,[74] but failed to mention that their history with

[72] UEC Closing Argument at 94.
[73] UEC Closing Argument at 98.
[74] 4 TR. 1023:9 – 14 (Reagor).

restoration of groundwater had been fraught with failure.[75] As such, Dr. Reagor's analysis for potential exposure of contaminants did not consider the post-mining contaminants that will migrate off site.

**N. Will the Applicant's proposed activities negatively impact the use of property?**

UEC did not address either major issue presented by Protestants at hearing – (1) limited volume of groundwater available for ranch use and (2) the effect on the market for cattle fed and watered in the area around the proposed uranium mine. Both negative impacts faced by adjacent citizens are existing rights that will be impaired upon commencement of uranium mining at the Goliad Project. Accordingly, the In-Situ Application is in violation of TEX. WATER CODE § 27.051(a)(2).

**O. Will the Applicant's proposed activities adversely affect public health and welfare?**

Sections II.A., II.C., II.L, II.M., II.N., II.R., II.S and II.T. establish the importance of groundwater to the citizens of Goliad County and how the proposed mining will cause perpetual contamination to this water supply. UEC has not met its burden to prove that the public health and welfare will not be adversely effected by UEC's proposed activities and the likelihood for future consumption of contaminated water. Accordingly, the In-Situ Application is in violation of TEX. WATER CODE § 27.051(a)(3).

**P. Whether the proposed mining is in the recharge zone of the Gulf Coast Aquifer (Evangeline component)?**

Goliad County relies fully on its briefing in Section II.P. of its Closing Argument.[76]

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[75] 4 TR. 1023:15 – 1025:14 (Reagor).
[76] Goliad County Closing Argument at 70.

**Q. Whether the Gulf Coast Aquifer is a confined aquifer in the areas of Goliad County where UEC will conduct UIC activities?**

Goliad County relies fully on its briefing in Section II.Q. of its Closing Argument.[77]

**R. Whether mining fluids will migrate vertically or horizontally and contaminate an USDW (underground source of drinking water)?**

UEC argued in its Closing Argument that the pump test never before seen by Dr. Bennett "had no effect whatsoever on his opinion that all evidence suggests that the Northwest Fault is sealed."[78] Although Dr. Bennett did his position in response to questions from his own counsel, Dr. Bennett certainly wavered on his opinion when confronted with the pump test data he had not before. The data clearly showed activity at a well on the upthrown side of the fault as a result from pumping a well on the downthrown side, indicating a hydraulic connection across the fault. Mr. Murry readily testified that "there was a response which would indicate communication."[79] When asked about this response on cross-examination, Dr. Bennett expressed he "wish[ed] [he] could work with the data a little more."[80] The evidence in the record shows uncertainty as to the hydraulic connectivity across the Northwest Fault. Therefore, mining fluids could absolutely migrate horizontally across the fault, and this movement may also result in vertical migration as well.

**S. Whether there are any USDWs within the injection zones proposed by UEC?**

Goliad County relies fully on its briefing in Section II.S. of its Closing Argument.[81]

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[77] *Id.* at 71.
[78] UEC Closing Argument at 115.
[79] 7 TR. 1341:15 – 1342:2
[80] 4 TR. 913:24 – 25 (Bennett).
[81] Goliad County Closing Argument at 74.

## T. Whether any USDWs within Goliad County will be adversely impacted by UEC's proposed in situ uranium operations?

UEC argues that because it must obtain an aquifer exemption prior to injecting into the formation, it would not impact any underground sources of drinking water unless injection fluid migrated outside of the exempted area.[82] UEC's logic overlooks the notion that by exempting the requested 423-acre portion of the Evangeline Aquifer, USDWs within Goliad County will be adversely impacted. As explained in Section II.S. of Goliad County's Closing Argument, the portion of the aquifer within the requested exemption (and throughout the entire permit boundary) is by definition an USDW.[83] Furthermore, Sections II.C., II.E. and II.T. of Goliad County's Closing Argument, explain that the water quality data compiled by UEC suggests that the portion of the aquifer requested for exemption is not only an USDW, but it is also suitable for human consumption. Although obtaining an exemption may prevent UEC from being in violation of TCEQ regulations once injection begins, an exemption does not negate the fact that an USDW suitable for human consumption will be adversely impacted by UEC's proposed in-situ operations.

Furthermore, as explained in Section II.E.2.a. and II.T. of Goliad County's Closing Argument, the hydraulic characterization of the permit boundary suggests there is no barrier to prevent contamination from migrating towards adjacent domestic water wells used by neighboring citizens. UEC's failure to prove that USDWs will not be adversely impacted by its mining operations is grounds for denying the In-Situ Application pursuant to 30 T.A.C. § 331.5 and § TEX. WATER CODE 27.051(a)(3).

[82] UEC Closing Argument at 121.
[83] Goliad County Closing Argument at 75.

## U. Whether there is a "practical, economic and feasible alternative to an injection well reasonably available" within the meaning of that term as set forth in TWC § 27.051(d)(2)?

UEC argues that alternative locations are not to be considered under TEX. WATER CODE § 27.051(d)(2).[84] However, determining whether reasonable alternatives are available is a component of the public interest review. Conducting mining at a location where the water quality is proven to be poor and unusable is far more reasonable than doing so at a location where the water is of relatively good quality and generally used for drinking. Even Mr. Murry agreed that it would be preferable to conduct in-situ mining in locations where the water exceeded the 10,000 total dissolved solids limit.[85] There are multiple uranium deposits in Texas, some of which are within counties that welcome uranium mining. The deposit in Goliad County happens to be within the vital source of drinking water for its citizens. Extraction of uranium at a different location is a practical alternative to the use of an injection well.

# III. APPLICATION FOR PROPOSED PRODUCTION AREA AUTHORIZATION UR03075PAA1

## A. Mine Plan

Goliad County chooses not to brief this issue.

## B. Restoration Table

As UEC points out, 30 T.A.C. 305.49(b)(2) requires that an application for a production area authorization must contain a restoration table.[86] Pursuant to 30 T.A.C. § 331.107(a), "restoration must be achieved for *all values in the restoration table* of all parameters in the suite established in accordance with the requirements of §331.104(b) of this title (relating to Establishment of Baseline and Control Parameters for Excursion Detection)." Based on the

[84] UEC Closing Argument at 124.
[85] 6 TR. 1237:7 – 12 (Murry).
[86] UEC Closing Argument at 125.

foregoing language, Goliad County extensively argued that UEC failed to create a restoration table that reflects representative samples from the production area under Section III.B., "Restoration Table". UEC noted in its Closing Argument that "Protestants' arguments regarding the validity of the baseline values are addressed below under Part III.C."[87] Accordingly, Goliad County will address UEC's arguments below under part III.C. Goliad County maintains its position that UEC failed to create a restoration table that reflects representative samples from the production area as required by 30 T.A.C. § 331.107(a)(1) and 30 T.A.C. § 331.104(a)(3).

## C. Baseline Water Quality Table

UEC argues it was not under "any regulatory duty to produce [the third round of water quality data] to TCEQ outside the scope of the hearing process."[88] In direct contradiction to UEC's position, Mr. Murry explicitly testified that UEC was in fact under an obligation to bring this information forward to the TCEQ, but did not do so.[89] Mr. Murry made clear he did not even consider the later rounds of sampling because "they were not submitted as part of the application or the application was not later amended to include this information."[90] Despite Mr. Murry's testimony, UEC still maintained that the later rounds of water quality were provided during discovery "exactly as it should be."[91]

UEC then suggested informally amending its application would have been improper.[92] However, when an amendment helped its position, UEC had no problem informally amending the PA-1 Application after receiving the water quality results from sampling PTWs 7 – 14. As explained in Section III.B. of Goliad County's Closing Argument, UEC was not obligated by

[87] UEC Closing Argument at 127.
[88] UEC Closing Argument at 131.
[89] 7 TR. 1313:12 – 21 (Murry).
[90] 7 TR. 1318:4 – 16 (Murry).
[91] UEC Closing Argument at 131.
[92] *Id.* at 131 – 132.

rule to include those samples in its application, but amended the application to do so because the levels of uranium were elevated and advantageous to its position that water quality at the site was poor. Conversely, the second and third rounds of water quality data suggest the exact opposite – that the water is relatively high quality. Not a single witness for UEC even mentioned the second or third round of water quality data in its pre-filed direct or rebuttal testimony. Instead of including the information in its PA-1 Application, UEC has completely ignored the data in hopes that this Court and the Commission will do the same. Regardless of whether UEC's failure to include sampling rounds two and three as part of the PA-1 Application rises to a violation 30 T.A.C. § 305.125(19), the baseline water quality table is inaccurate and does not represent the baseline water quality conditions at the proposed project site.

### 1. Well development methodology solubilized uranium and liberated radium.

Mr. Murry on behalf of the Executive Director testified that development of "all wells" includes lowering an air line into the casing and the well screen is jetted with air to remove any scale or mud from the screen.[93] Goliad County presented overwhelming evidence that jetting caused oxygen to be introduced into the subsurface, solubilizing uranium and liberating radium into the groundwater. In large part, evidence presented by Goliad County was admissions by UEC employees that jetting did in fact cause uranium and radium to contaminate the groundwater. Mr. Holmes testified with confidence and without hesitation that jetting could have caused uranium to be released, especially for the first set of sampling because "there are completion activities going on to cleaning up the well, to get it put into use, and that's different from later sampling because the wells have been in existence now for some time, and there's no

[93] ED Exhibit 1, Murry Pre-filed Testimony, Exhibit 17 at Response 18 (Response to Comments).

further development."[94] Mr. Holmes went on without reservation, "it's a high [of uranium concentration] then it disappears, yeah, that would tend to show that there's probably certainly some high reducing areas there that's causing that falloff over time, and I guess that's a pretty short period of time, the sampling periods."[95] This testimony speaks for itself.

In addition to submitting over 100 changes to his deposition testimony, UEC argues "since Mr. Holmes was not personally involved in the well development, his deposition testimony as to the methodology was based solely on his own understanding of well development methodology, not what someone at UEC told him."[96] Conveniently, Mr. Holmes, who has been proffered by UEC as an expert on essentially every aspect of uranium mining and UEC's applications, all of the sudden, for the first time, is "wrong" about operations at the Goliad Project Site. Mr. Murry exposed this absurdity when he testified that "*based on the information that was relayed to me by Craig Holmes,*" air would have been introduced at the screen level.[97] If UEC is to be believed that Mr. Holmes is "wrong" regarding well development procedure, Mr. Murry's testimony begs the question - why was Mr. Holmes relaying information to the TCEQ regarding procedure with which he had no involvement or understanding? The answer, of course, is that he served as the point person between UEC and TCEQ and was either well aware of how jetting was conducted, or, if not, he was informed by someone at UEC that was. The bottom line is that Mr. Holmes's testimony is a blatant admission that UEC caused elevated levels of uranium in the first and second rounds of samples.

UEC then argues that Mr. Underdown testified that jetting the wells did not involve lowering an air line any further than 90 feet below the surface. UEC maintained that

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[94] 2 TR. 380:5 – 17 (Holmes).
[95] 2 TR. 381:12 – 16 (Holmes).
[96] UEC Closing Argument at 134.
[97] 7 TR. 1308:15 – 22 (Murry) (emphasis added).

Mr. Underdown should be taken at his word because he "responded to all questions regarding the methodology used in the credible, unhesitating and detailed manner."[98] However, there are two reasons to remain doubtful of Mr. Underdown's testimony, both of which are tangible pieces of evidence as opposed to UEC's claim to "trust us."

First, Mr. Underdown is the Vice-President of Production at UEC, which entails a significant financial interest in the issuance of this permit. Mr. Underdown owns "about 25 [or] 30,000" shares of UEC stock and has an additional 150,000 shares of UEC stock under option.[99] Mr. Underdown fully acknowledged that he expects and hopes the stock increases in value should these permits be issued. Second, Goliad County entered into evidence an email sent from Mr. Anthony, UEC's Chief Operating Officer, to Mr. Underdown on the "most efficient" method of jetting a well, which is to lower the air line two-thirds of the way down the water column.[100] Mr. Anthony is Mr. Underdown's boss, and, unlike Mr. Underdown, is a professional licensed engineer that signed the technical reports for both applications. Without any evidence other than Mr. Underdown's word, UEC would have this Court believe that the wells were jetted in an entirely different way than relayed to the TCEQ by Craig Holmes, or than the method recommended by a licensed engineer and Chief Operating Officer of the company.

UEC attempted to bolster Mr. Underdown's testimony by referencing Dr. Bennett's testimony that "Mr. Underdown's method makes sense from a practical perspective."[101] However, it became clear at hearing that Dr. Bennett did not witness the method that was actually utilized for jetting the wells.[102] Most importantly, regardless of the manner in which the well was jetted, as Mr. Murry testified, the purpose of jetting is to "remove any scale or mud

[98] UEC Closing Argument at 134.
[99] 1 TR. 181:5 – 21 (Underdown).
[100] GCGCD Cross-Examination Exhibit 21.
[101] UEC Closing Argument at 134.
[102] 4 TR. 853:13 – 19 (Bennett).

from the screen"[103] and "air would have been introduced at the screen level."[104] Accordingly, jetting the wells during well development was one cause of artificially elevated levels of uranium to be detected in the first and second rounds of sampling.

### 2. Pump Tests

At hearing, Goliad County offered into evidence a Bureau of Economic Geology report co-authored by Dr. Galloway that states, "Remobilization [of uranium] could occur if the aquifer chemistry or ground-water flow were changed by an outside stimulus, such as ... *local ground-water drawdown... .*"[105] UEC argues that this statement was taken out of context and that Dr. Galloway was clear that pumping referred to in this publication was from a municipality.[106] However, a close reading of the excerpt from the publication shows that this statement has no other context than the plain meaning of its language. Nowhere else in the entire study does it explain that the quantity of pumping necessary to remobilize uranium must be equivalent to a municipality. Dr. Galloway attempted to include such a qualifier, but it simply does not exist in the publication. Moreover, Dr. Galloway disclosed that he is not a hydrologist and he did not draft the excerpt in the publication regarding remobilization of uranium. Specifically, he testified that local drawdown remobilizing uranium concentration is "certainly one of the conclusions that my hydrology friends would have probably written."[107] He also agreed that remobilization could occur "if the drawdown were of sufficient magnitude that it would begin to affect the groundwater flow ... ."[108] When asked if a pump test would alter local drawdown, Dr. Galloway offered a disclaimer, "I'm not a hydrologist, and again, at the *risk of being proved*

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[103] ED Exhibit 1, Murry Pre-filed Testimony, Exhibit 17 at Response 18 (Response to Comments).
[104] 7 TR. 1308:5 – 17 (Holmes).
[105] Goliad County Cross-Examination Exhibit 2.
[106] UEC Closing Argument at 136.
[107] 1 TR 112:3 – 15 (Galloway).
[108] 1 TR. 112:10 – 12 (Galloway).

*wrong,* I would be surprised."[109] Dr. Galloway's testimony is far from "clear" that pump tests would not be sufficient to cause local groundwater drawdown.[110]

On the other hand, Dr. Bennett testified that sufficient drawdown could have occurred to remobilize uranium. Dr. Bennett testified that a 24-hour pump test would affect the area within an approximate 13-foot radius from the well being pumped.[111] Drawdown within a 13-foot radius is consistent with Dr. Galloway's publication that local drawdown can remobilize uranium. Underscoring the remobilization that occurred is the drastic change in water quality data from when PTWs 1 – 6 were sampled to when PTWs 7 – 14 were sampled. As explained in Goliad County's Closing Argument, the two pump tests conducted by UEC (PTW-1 and PTW 6), were conducted on July 9, 2008,[112] which was approximately two months after PTWs 1 - 6 were sampled and approximately two months before PTWs 7 – 13 were sampled. The uranium concentrations of in PTWs 7 – 13 were drastically higher than concentrations detected in PTWs 1 – 6. In fact, the lowest concentration detected from PTWs 7 – 13 is .099 mg/L, which is higher than the highest uranium concentration at PTWs 1 – 6, which was .059 mg/L. Every sample from PTWs 7 – 13 were significantly higher than the highest sample from PTWs 1 -6.[113] An outside stimulus occurred to cause this change in concentrations. At a minimum, the pump tests were a contributing factor to solubilizing uranium. UEC did not present any tangible evidence to counter that remobilization occurred as a result of local groundwater drawdown. Again, UEC relies only on the word and speculation of Dr. Galloway - one of its own hired witnesses that is not a hydrologist.

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[109] 1 TR. 112:18 – 19 (Galloway) (emphasis added).
[110] UEC Closing Argument at 135.
[111] 4 TR. 900:13 – 17 (Bennett).
[112] UEC Exhibit 6, Holmes Pre-filed Testimony at Exhibit 20, appendix D (PAA Application).
[113] Goliad County Exhibit 3, Sass Pre-filed Testimony at Exhibit 12.

### 3. Uranium concentrations dropped substantially at all wells

UEC points out that the decreasing levels of uranium is the centerpiece to Protestants' position that baseline water quality is being misrepresented in UEC's applications. Goliad County certainly agrees with UEC's assessment of the centerpiece, as Protestants made no secret of the importance of this data. Interestingly, out of 152 pages of argument, UEC still spent only one and a half pages addressing the "centerpiece" that illustrated a drastic decrease of uranium concentrations at every single water well sampled. In its futile attempt to rebut this overwhelming water quality data, UEC relies primarily on the testimony of Dr. Erskine. However, Dr. Erskine's testimony is not applicable to the water quality data at issue in these permit applications and additional testimony offered by Dr. Erskine actually supports Protestants' position that an oxidizing event occurred prior to the first round of sampling.

For example, UEC relies on Dr. Erskine's testimony that "[i]f you look at groundwater data over time, and I have got some data sets that are as large as 30 years, you'll see the concentrations just oscillating over a large range."[114] Goliad County does not necessarily disagree with the potential scenario described in Dr. Erskine's statement. However, the three rounds of water quality samples at issue in this proceeding do not show oscillation. As stated in Goliad County's Closing Argument, Dr. Abitz testified that the samples from the PTWs detected "a high of about .804 [mg/L] [of uranium] down to a value near the detection limit of 0.005 [mg/L] [of uranium]. That is ... over a 2 order of magnitude swing. You do not see this variability in Round 2 or Round 3. And this strongly suggests a geochemical control on uranium concentration because the variability decreases after Round 1."[115] Goliad County Cross-Examination Exhibit 1 is a good illustration of the lack of variability exhibited by the range of

[114] 1 TR. 141:13 – 16 (Erskine).
[115] 6 TR. 1115:1 – 7 (Abitz).

concentrations. Even Dr. Erskine acknowledged that the data indicates a decreasing trend.[116] The oscillation Dr. Erskine references is simply not occurring at the Goliad site and his testimony lends support to Dr. Abitz's testimony that an oxidizing even occurred.

UEC attempts to bolster Dr. Erskine's variability of groundwater theory citing his testimony that a "small change in flow direction over time could cause you to be drawing from a completely different volume than you drew from when you were sampling previously."[117] UEC appears to suggest that the reason for lower concentrations of uranium detected in later rounds of sampling is because a different "pocket" of water migrated into each well. It is absolutely untenable to suggest that the high levels of uranium detected in the first round of sampling were naturally occurring, but then in the third round of sampling, all 22 BMWs, all 4 RBLBs and all 14 PTWs sampled a new "pocket" of water that somehow avoided the uranium on its path of migration to the well and, therefore, did not contain the "naturally occurring" uranium. This phenomena is even harder to believe considering that the RBLs and PTWs are drilled directly into the heaviest concentrated areas of uranium and that the groundwater flow rate is somewhere between 20 and 40 feet per year. In other words, the water sampled one or two years after the first round of samples would be water from within the proposed production zone and would be expected to be of the same quality.

In sum, UEC has failed to explain the change in uranium concentrations between the three rounds of sampling. UEC unsuccessfully eliminated the pathways for oxygen to be introduced into the subsurface, causing or contributing to the solubilizing of uranium and liberation of trapped radium into the groundwater. Notably, the burden of proof is on UEC, not Goliad County, to demonstrate that the water quality samples used to create the restoration table

[116] 1 TR. 140:4 – 9 (Erskine).
[117] UEC Closing Argument at 137.

reflect *representative samples* from the production area. UEC has failed to meet its burden of proof and has failed to satisfy 30 T.A.C. § 331.107(a)(1) and 30 T.A.C. § 331.104(a)(3).

## D. Control Parameter Upper Limits

UEC designated chloride and conductivity as its control parameters. It determined the *proposed* upper limits by adding 25% to the highest detected concentration for chloride and conductivity. The application form for a PAA states that an applicant may determine upper limits by either adding 25% or 5 mg/L to the highest detected concentration. For this application, the acceptable method not adding 25%, but rather adding 5 mg/L to the highest detected concentration.

As explained in Goliad County's Closing Argument, the upper limit concentrations proposed by UEC for chloride and conductivity are far greater than the average concentrations detected. For example, the average chloride concentration in the overlying A Sand is 266 mg/L.[118] However, the highest detected chloride concentration was 584 mg/L,[119] over 300 mg/L higher than the average. UEC added an additional 25% of 584 mg/L, ultimately concluding 730 mg/L as the proposed upper control limit for chloride. UEC's methodology, although referenced in the application form, has created a buffer of almost 500 mg/L of chloride that can be detected in the overlying A Sand without UEC having to declare an excursion event.

UEC has created a similar buffer with the upper control limit for conductivity in the overlying A Sand. The average conductivity in the A Sand was 1,520 µmhos.[120] However, the highest detected conductivity at the overlying A Sand was 2,450 µmhos.[121] UEC then added an additional 25% of 2,450 µmhos, ultimately concluding that 3,062 µmhos as the proposed upper

[118] UEC Exhibit 6, Holmes Pre-filed Direct, Exhibit 20 at Table 6.1
[119] *Id.*
[120] *Id.*
[121] *Id.*

control limit for conductivity. Using the highest detected value, which is far greater than the average level of conductivity in the A Sand, conductivity will essentially have to double during mining in order for UEC to declare an excursion.

A more reasonable approach to determine upper limits would be to add 5 mg/L to the highest detected concentrations. Instead of a 730 mg/L upper limit for chloride in the A Sand, the upper limit should be, at a maximum, 589 mg/L (584 mg/L + 5 mg/L). Although a significant buffer above the average concentration in the A Sand will still exist and excursions may still go undetected, this method will minimize undetected excursions. As the upper limits submitted by UEC are simply proposed upper limits, Goliad County respectfully request that the Commission lower any official upper limits that may be set.

## E. Monitor Wells

Goliad County argued in its Closing Argument that the production zone monitoring wells are exactly 400 feet from the production zone, which is too far away to detect migration of contaminated groundwater during mining operations or before UEC is no longer obligated to monitor the groundwater.[122] UEC argued that the inability of the monitoring wells to detect an excursion resulting due to a slow rate of groundwater flow is a benefit to the proposed project site.[123] Goliad County strongly disagrees.

UEC supports its argument with a reference to a BFI landfill Proposal for Decision.[124] However, the reasoning cited from the BFI Proposal for Decision is inapplicable to the monitoring well system proposed for PA-1. First, unlike at a landfill, injection fluids are injected into the ground where they will solubilize uranium and release trapped radium into the

[122] Goliad County Closing Argument at 89.
[123] UEC Closing Argument at 144.
[124] *Id.*

groundwater. To make matters worse, past uranium mines have been unsuccessful at restoring groundwater quality to pre-injection conditions. In turn, there is a certainty and degree to which groundwater contamination will occur at the proposed uranium site that presents an entirely different scenario presented by a more indirect and mere potential for contamination caused by a landfill. Moreover, there are specific post-closure requirements a landfill must satisfy before ceasing to monitor the groundwater. As Mr. Murry testified, at the Goliad Project Site, all monitoring requirements will cease as early as UEC obtains a restoration amendment.[125] The rate of groundwater flow at the Goliad site - not yet adequately defined by UEC - will cause migration of contaminated groundwater not to reach the monitoring well system within the life of the operation, but will inevitably migrate off-site within a relatively short time period. Goliad County does not see this as a benefit to the Goliad Project Site, but rather as a loophole that minimizes the Applicant's obligation to prevent migration of pollution, jeopardizing the citizens of Goliad County.

## F. Cost Estimates For Aquifer Restoration and Well Plugging and Abandonment

UEC notes that 30 T.A.C. § 331.143 is central to the financial assurance requirements for production area authorizations.[126] However, UEC does not cite the rule in its entirety, and in doing so, omits the part of the rule it failed to satisfy. In full, 30 T.A.C. § 331.143(a) states, "the owner or operator must prepare a written estimate, in current dollars, of the cost of: (1) plugging the well(s) in accordance with the plugging and abandonment plan as specified in this chapter; and (2) aquifer restoration for *each production area authorization.*" Applicant has not provided written cost estimates for all four proposed production areas. Accordingly, Goliad County

[125] 6 TR. 1251:1 – 4 (Murry).
[126] UEC Closing Argument at 145.

respectfully requests that this Court recommend that no permit be issued before all appropriate calculations for restoration costs at each production area authorization are completed.

### G. Other Information Required to Evaluate the Application

Goliad County chooses not to brief this issue.

### H. Whether the Application for PAA1 complies with all Applicable Statutory and Regulatory Requirements?

Goliad County relies fully on its briefing in Section III.H. of its Closing Argument.[127]

## V. CONCLUSION

For the reasons set out in Goliad County's Closing Argument and this Reply to Closing Arguments, Goliad County recommends denial of the In-Situ Application and the aquifer exemption request. As it is impossible to receive a production area authorization without an in-situ permit, Goliad County recommends no action on the PA-1 request. In the alternative if the recommendation is made to issue the In-Situ permit and Aquifer Exemption, then Goliad County respectfully requests denial of the PA-1 Application.

## VI. FINDINGS OF FACT

Protestant did not make any amendments to Findings of Fact previously submitted.

## VII. AMENDED CONCLUSIONS OF LAW

Protestant submits the following proposed Amended Conclusions of Law:

[127] Goliad County Closing Argument at 91.

1. If the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in an application, or in any report to the Executive Director, it shall promptly submit such facts or information. 30 T.A.C. § 305.125(19).

2. The record evidence demonstrated that UEC violated 30 T.A.C. § 305.125(19) for failure to provide pump test data to the Executive Director to be considered as part of its application.

3. The record evidence demonstrated that UEC violated 30 T.A.C. § 305.125(19) for failure to provide second and third round water quality data to the Executive Director to be considered as part of its application.

4. TEX. WATER CODE § 27.051(a)(1) provides, the commission may grant an application in whole or part and may issue a permit if it finds that the use or installation of the injection well is in the public interest.

5. The commission, in determining if the use or installation of an injection well is in the public interest under Subsection (a)(1) shall consider, but shall not be limited to the consideration of... [list of considerations]. TEX. WATER CODE § 27.051(d)

6. Record evidence demonstrates that the Executive Director failed to consider any negative impacts from the proposed Class III injection well, which is contemplated as part of TEX. WATER CODE § 27.051(a)(1).

7. Record evidence demonstrates that the use or installation of the proposed UEC injection well is not in the public interest as contemplated by TEX. WATER CODE § 27.051(a)(1).

8. Record evidence demonstrates that existing rights will be impaired if the Class III injection well permit is issued. TEX. WATER CODE § 27.051(a)(2).

9. Record evidence demonstrates that groundwater cannot be adequately protected from pollution if the Class III injection well permit is issued. TEX. WATER CODE § 27.051(a)(3).

10. Record evidence demonstrates that UEC has not made a satisfactory showing of financial responsibility. TEX. WATER CODE § 27.051(a)(4).

11. The Executive Director shall evaluate the compliance history of each site and classify each site and person when making decisions regarding the issuance of a Class III injection well permit in accordance with Texas Water Code § 27.051(e) and 30 T.A.C. §§ 60.1(a)(1) and 60.2(a).

12. Executive Director failed to consider Applicant's compliance history with respect to the exploratory drilling, failing to fully comply with 30 T.A.C. § 60.2(b).

13. If the commission concludes that the Applicant's compliance history is unacceptable, the commission shall deny the permit. TEX. WATER CODE § 27.051(e).

14. The record evidence demonstrated that the Applicant's compliance history is unacceptable. TEX. WATER CODE § 27.051(e); 30 T.A.C. § 60.3(a)(E).

15. The average concentrations from the 20 Regional Baseline Wells do not represent the "permit area" as required by 30 T.A.C. 331.2(13).

16. Applicant has not adequately and accurately described baseline conditions of the groundwater in the proposed permitted area under applicable requirements of Title 30 TEX. ADMIN. CODE, Chapter 331.

17. Applicant has failed to fully comply with 30 T.A.C. § 331.122, which requires a map showing the injection wells and proposed production areas.

18. Applicant violated 30 T.A.C. 305.49(a)(9) by not having a licensed professional geoscientist or a licensed professional engineer delineate the proposed exemption boundary.

19. Applicant's request for an aquifer exemption does not satisfy requirements set forth in 30 T.A.C. § 331.13.

20. An aquifer can be exempted if it "cannot now and will not in the future serve as a source of drinking water because of [listing reasons]. 40 C.F.R. § 146.4

21. An aquifer or portion of an aquifer may be designated as an exempted aquifer if it does not currently serve as a source of drinking water for human consumption *and* ... will not in the future serve as a source of drinking water for human consumption because of ... [listing reasons]. 30 T.A.C. § 331.13(c)(1) and (2).

22. Aquifer exemption rules do not define that currently serving as a source of drinking water for humans only includes water wells that are physically located within the proposed aquifer exemption boundary. 7 TR. 115:18 – 19 (Murry).

23. The intent of the exemption of mineral, oil or geothermal producing portions of aquifers from designation as underground sources of drinking water is to allow current

production in such aquifers to continue undisrupted by these regulations. The exemption is not intended as a green light to exempt any aquifer or its portion which merely has the potential to be used in the future for production purposes. County Exhibit 1, Clark Pre-filed Testimony at Exhibit 30 (44 Tex. Reg. 78 (April 20, 1979) at 23743).

24. Each sand – A, B, C and D – meets the definition of aquifer under 30 T.A.C. § 331.2(6).

25. The proposed aquifer exemption boundary includes areas that do are not mineral bearing with production capabilities as required by 30 T.A.C. § 331.13(c)(2)(A).

26. The proposed aquifer exemption boundary includes water that is not so contaminated that it would be economically or technologically impractical to render the water fit for human consumption as required by 30 T.A.C. § 331.13(c)(2)(C).

27. Applicant has failed to provide sufficient evidence to enable the Commission to consider maps and cross-sections, detailing the geologic structure of the local area in violation of 30 T.A.C. § 331.122(2)(D).

28. Applicant's Class III application is not sufficiently protective of groundwater.

29. Applicant has not proven it can confine mining solutions when mining the proposed production areas A, C and D as required by 30 T.A.C. § 331.102.

30. Applicant has not proven it can comply with monitoring requirements when mining the proposed production areas A, C and D as required by 30 T.A.C. § 331.103.

31. Applicant failed to include in either the In-Situ Application or PA-1 Application a written estimate, in current dollars, of the cost of aquifer restoration for each production area authorization as required by 30 T.A.C. § 331.143.

32. Applicant's proposal for restoration of groundwater to baseline levels as contained in the permit application is unreasonable and inadequate and is in violation of 30 T.A.C. § 331.5, which prohibits issuing a permit where an injection well causes or allows the movement of fluid that would result in pollution of an underground source of drinking water.

33. Applicant's proposed activity will negatively impact livestock by contaminating a source of drinking water.

34. 30 T.A.C. § 331.2(97) defines an Underground Source of Drinking Water as an aquifer or its portions which supplies drinking water for human consumption or contains fewer than 10,000 milligrams per liter total dissolved solids.

35. Alternative sites as contemplated by Tex. Water Code 27.051(d)(2) may be available where water quality is poorer than at the proposed Goliad Project Site.

36. Groundwater in the production zone within the production area must be restored when mining is complete. 30 T.A.C. § 331.107(a).

37. Restoration must be achieved for all values in the restoration table of all parameters in the suite established in accordance with the requirements of 30 T.A.C. 331.104(b). 30 T.A.C. § 331.107(a).

38. Record evidence demonstrates that the Applicant will be unable to achieve restoration for all values in the restoration table as required by 30 T.A.C. § 331.107(a).

39. Applicant failed to establish a restoration table using representative samples as required by 30 T.A.C. § 331.104(a)(3) and (b).

40. Applicant has submitted an insufficient water quality table as required by 30 T.A.C. § 305.49(c).

41. Applicant has submitted inappropriate control parameter upper limits as required by 30 T.A.C. § 305.49(c).

Respectfully submitted,

BLACKBURN CARTER, P.C.

by: Adam Friedman

James B. Blackburn, Jr.
TBN 02388500
Mary W. Carter
TBN 03926300
Adam M. Friedman
TBN 24059783
4709 Austin Street
Houston, Texas 77004
713/524-1012
713/524-5165 (*fax*)
*FOR PROTESTANT*
*GOLIAD COUNTY, TEXAS*

## CERTIFICATE OF SERVICE

On this 29th day of July, 2010, a true and correct copy of the foregoing instrument was served on all attorneys and parties of record by the undersigned via the method indicated below.

Adam Friedman

Adam Friedman

SERVICE LIST

Richard R. Wilfong
Administrative Law Judge
State Office of Administrative Hearings
300 West 15th Street, Ste. 502
Austin, Texas 78701
*Via Federal Express*

FOR THE CHIEF CLERK:
LaDonna Castañuela, Chief Clerk
Office of the Chief Clerk - MC 105
Texas Commission on Environmental Quality
12100 Park 35 Circle
Austin, Texas 78753
*Via Federal Express*

FOR THE EXECUTIVE DIRECTOR:
Shana L. Horton, Staff Attorney
Texas Commission on Environmental Quality
Environmental Law Division, MC-173
P.O. Box 13087
Austin, Texas 78711-3087
*Via U.S. First Class Mail*

Don Redmond, Staff Attorney
Texas Commission on Environmental Quality
Environmental Law Division, MC-173
P.O. Box 13087
Austin, Texas 78711-3087
*Via U.S. First Class Mail*

FOR PUBLIC INTEREST COUNSEL:
Garrett Arthur, Jr., Staff Attorney
Texas Commission on Environmental Quality
Office of Public Interest Counsel, MC-175
P.O. Box 13087
Austin, Texas 78711-3087
*Via U.S. First Class Mail*

FOR THE APPLICANT:
Monica Jacobs
Kelly, Hart & Hallman, P.C.
301 Congress Ave., Ste. 2000
Austin, Texas 78701
*Via U.S. First Class Mail*

FOR GOLIAD COUNTY GROUNDWATER CONSERVATION DISTRICT:
Rob Baiamonte, County Attorney
Goliad County
P. O. Box 24
Goliad, Texas 77963
*Via U.S. First Class Mail*

GOLIAD COUNTY FARM BUREAU:
P.T. Calhoun
Goliad County Farm Bureau
P.O. Box 1369
Goliad, Texas 77963
*Via U.S. First Class Mail*

OTHERS:
Judge Harold Gleinser, County Judge
Goliad County Judge
P. O. Box 677
Goliad, Texas 77963
*Via U.S. First Class Mail*

Art Dohmann
4679 State Hwy. 119
Goliad, Texas 77963
*Via U.S. First Class Mail*